Appendix A
Design Features, Best Management Practices, and Mitigation Measures

Design Features. In response to internal and external scoping on the proposal, we developed project design features to moderate some of the potential impacts the proposed action may cause. Project design features are described below in Table 3, and include those required for protection of soil and water, and wildlife. These project design features are important for reducing the effects of the proposed action. Therefore each year, as an implementation plan is prepared, we would review and apply them, as appropriate.

Table 3. Project design features.

ID	Project design feature	Purpose
	General Herbicide Use Design Features	
1	Herbicide application will comply with product label directions and applicable legal requirements.	To avoid or minimize the risk of soil, surface water, or groundwater contamination. To minimize risk to special status plants and wildlife as well as other biological resources. To ensure compliance with legal requirements. Compliance with BMP 5.8 (USDA Forest Service 2011)
2	Herbicide formulations would be limited to those containing one or more of the following seven active ingredients: aminocyclopyrachlor, aminopyralid, chlorsulfuron, fluazifop-P-butyl, glyphosate, imazapyr, and triclopyr.	To minimize potential adverse effects on workers, forest users, and resources.
3	Herbicide applications would only treat the minimum area necessary to meet site objectives.	To minimize potential adverse effects on workers, forest users, and resources.
4	Herbicide application methods are limited to select (e.g. low pressure hand sprayer, wicking, wiping, stem injection) and directed spray (use of backpack sprayer or hand held nozzle to aim application at specific target species), as permitted by the product label and project design features. No aerial herbicide applications will occur (USDA and USDI 2015).	To minimize potential adverse effects on workers, forest users, and resources.
5	Spray application drift control measures: 1) Only ground based equipment will be used 2) All applications will cease when weather conditions exceed those on the label 3) Applications will not be performed when the National Weather Service forecasts a greater than 70 percent probability of measurable precipitation (greater than 0.1 inches) within the next 24 hour period 4) Applications will cease when wind speed exceeds 10 mph 5) Spray nozzles will produce a relatively large droplet size (500-800 microns) 6) Low nozzle pressures will be used (15 psi) 7) Spray nozzles will be kept within 24 inches of target vegetation during spraying 8) A pressure gauge or pressure regulator will be required on each backpack sprayer	To minimize the risk of pesticide drift onto water or non-target areas, in order to minimize impacts to water quality, special status plants and wildlife, non-target vegetation, and other biological resources (e.g. pollinators, aquatic organisms). Compliance with BMP 5.13 (USDA Forest Service 2011) and BMPs regarding pollinators (USDA and USDI 2015)

6	Herbicides will be applied by trained and/or certified applicators in accordance will label instructions and applicable federal and state pesticide laws. Mixing of herbicides will be supervised onsite by, at a minimum, a Qualified Applicator certified by the State of California.	To establish the level of trained / certified personnel for herbicide applications.
7	Personal Protective Equipment (PPE) will be used in accordance with the product label and California Department of Pesticide Regulation requirements.	To minimize potential adverse effects to workers.
8	Chemicals will be stored in designated storage facilities consistent with FSM 2109.14, Chapter 40. Unused herbicides will be disposed of in accordance with the product label and FSM 2109.14, Chapter 40. If the product label and FSM differ, the more restrictive storage and disposal guidelines will be followed.	To minimize potential adverse effects on workers, forest users, and resources. Compliance with BMP 5.11 (USDA Forest Service 2011).
9	No directed spray or broadcast herbicide application will occur on weekend days between Memorial Day and Labor Day in recreation sites (campgrounds, trailheads, and dispersed camping areas).	To minimize potential adverse effects on forest users.
10	For herbicide treatment within 100 feet of recreation sites (campgrounds, trails, and trailheads), cautionary notice signs will be posted at the recreation site prior to herbicide treatments.	To inform and to minimize potential adverse effects on forest users.
	Soil and Water Design Features	
11	Areas with bare soil created by the treatment of noxious weeds would be evaluated for rehabilitation (i.e. reseeding, mulching, etc.)	To ensure that the treatment of noxious weeds is not creating open areas or bare areas for spread of noxious weeds and to protect water quality and riparian habitat.
12	**Areas outside of ephemeral stream**: If treatment reduces soil cover to less than 50% for a contiguous are of >0.25 acres, then mulching and/or revegetation may be required to minimize erosion and reestablish native vegetation. Only native plant species will be used in revegetation. All mulch and seed material will be certified weed-free. **Areas within 50 feet of ephemeral stream**: If treatment reduces soil cover to less than 70% for a contiguous area of >0.1 acres, then mulching and/or revegetation may be required to minimize erosion and reestablish native vegetation. Only native plant species will be used in revegetation. All mulch and seed material will be certified weed-free.	To ensure that the treatment of noxious weeds is not creating open areas or bare areas for spread of noxious weeds and to protect water quality and riparian habitat.
13	Herbicide mixing will not occur within 150 feet of the ephemeral stream and inside ditch. The cleaning and disposal of herbicide containers will be done in accordance with Federal, State, and local laws, regulations, and directives.	To reduce risk of contamination of water by accidental spill.
14	When applying herbicides with a backpack sprayer all directed spray will be done in a downward direction in accordance to the herbicide's label. This will minimize herbicide drift and confine the herbicide to the drop zone of the individual weed plant being treated.	To control drift within the entire project area especially within sensitive areas and near water.
15	All herbicide application will follow EPA approved label directions in regards to control of drift of herbicides during spraying. These directions have specific wind speeds and air temperatures for application of each herbicide. Applicators will utilize droplet size and spray pressure to insure droplets do not travel outside of the drip line target plant. A colorant would be added to the herbicide mixture prior to spraying. Spray cards may be used to aid in detecting herbicide drift.	To control drift of herbicides onto unintended targets and to minimize risk of surface water contamination.

16	POEA surfactants will not be used within 150 feet of live waters.	To protect aquatic organisms.
17	Roadside ditches will be treated the same as the water body type they resemble.	To project water quality and meet SNFPA Riparian Management Objectives. Also to ensure that TECS and Special Interest plants are protected.
18	Application of Aminocyclopyrachlor, and Imazapyr will be limited to late spring and early summer. No application of these chemicals after that timeframe.	To project water quality.
19	Application Chlorsulfuron and Clopyralid will not be allowed in the fall.	To protect water quality.
	Wildlife Design Features	
20	The spraying of herbicide will take place when soils are dry or a dry period when there is no chance of rain. This is the same as per the limiting operating period (LOP) for amphibians October 15 through March 1st, if a rain event should occur and last greater than 72 hours prior to October 15th activities then there should be no spraying of herbicide until a drying event.	To protect amphibians.
21	If threatened, endangered, or proposed species are listed or discovered within an area in which they may be adversely affected by activities, protection measures should be followed as recommended by a biologist, as appropriate for the species.	To protect T&E wildlife species, if found on-site.
22	The non-native invasive plants would be treated prior to flowering to ensure that Western bumblebees are not present on plants during herbicide application.	To protect Western bumblebees.